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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,276	12/02/2003	Ben Wei Chen	ML-25	1275
23933	7590	11/09/2005	EXAMINER	
STUART T AUVINEN 429 26TH AVENUE SANTA CRUZ, CA 95062-5319			MYERS, PAUL R	
			ART UNIT	PAPER NUMBER
			2112	

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,276	<b>Applicant(s)</b> CHEN ET AL.	
	<b>Examiner</b> Paul R. Myers	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-20 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/2/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsey PN 2004/0008705 in view of Applicants admitted prior art (AAPA).

In regards to claim 1: Lindsey teaches a bus switch (140) comprising: an upstream interface (from 145 to 140) for connecting to a host (110); a plurality of downstream interfaces (135A and 135B) that connect to bus segments for connecting to a plurality of functions; a virtual bridge (Virtual NIC interface) for connecting the upstream interface to the plurality of downstream interfaces; and a transaction manager (IM driver), coupled to control the virtual bridge to act as a hub (Paragraph 0006) by passing packets from the host to the plurality of functions (from Virtual Interface #1 to Phys Interface #1 and Phys Interface #2) when operating in hub mode (Paragraph 0036) and for acting as a single endpoint to the host when operating in a single-endpoint mode (Paragraph 0036); wherein the transaction manager passes data and the functions and intercepts and modifies packets (Via the Hash function) from the host to generate secondary packets over the bus segments to the functions when operating in single endpoint mode; wherein the functions and the bus segments are hidden from the host by the transaction manager (appear to be only a single device) when operating in single endpoint mode, but are visible as endpoints (2 functions) to the host when operating as a

Art Unit: 2112

hub; whereby the dual-mode switch operates in multiple endpoint mode and single endpoint mode. Lindsey does not teach the hub being a USB hub or endpoint devices being memory. AAPA teaches a USB hub (20) with multiple endpoints being memories. It would have been obvious to modify the USB hub of AAPA to perform the dual-mode switching of Lindsey because this would have made the configuration and management more intuitive (Lindsey Paragraph 0036).

In regards to claim 2: Lindsey teaches the switch including logic for determining the selected mode (Figure 4 and EEPROM 218).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsey PN 2004/0008705 in view of AAPA as applied to claim 2 above, and further in view of Miller PN 6,553,446.

In regards to claim 3: Lindsey teaches the mode selection as described above. Lindsey however teaches writing a mode selection to an EEPROM instead of the claimed mode pin. Miller teaches a bridge that operates in two modes with a mode select pin (Column 7 lines 15-22). It would have been obvious to use a mode select pin because this would have simplified configuration.

4. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindsey PN 2004/0008705 in view of AAPA as applied to claim 2 above, and further in view of Nayyar et al PN 6,457,068.

In regards to claims 4: Lindsey teaches translating the packets through a hash function. Lindsey however does not expressly teach the translating being from a logical address to a physical address. Nayyar teaches translating from a logical address to

Art Unit: 2112

physical addresses in a bridge. It would have been obvious to perform address translation because this would have allowed for greater addressing flexibility.

In regards to claim 5: Official notice is taken that striping memory across multiple memories in blocks is well known (Normally performed in RAID systems). It would have been obvious to use memory striping because this would have allowed for memory parity thus error correction.

In regards to claim 6: Nayyar inherently aggregates the physical address space into the logical address space.

In regards to claims 7-8: Lindsey teaches the MAC's having different functions/attributes but the HUB appears only as a single function device.

#### ***Allowable Subject Matter***

5. Claims 15-20 are allowed.

6. Claims 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Reordering transactions are common however the examiner could determine no motivation to reorder the transactions in the system of Lindsey in view of AAPA in the manner claimed.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Art Unit: 2112

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 571 272 3639.

The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
PAUL R. MYERS  
PRIMARY EXAMINER

PRM  
November 7, 2005